

ABSTRACT

An apparatus for adjusting the tension on a heating filament in a reactor used in carbon deposition on a substrate via chemical-vapor deposition is disclosed, as is a method for preventing breakage of the filaments during operation. The apparatus comprises a force regulator attached to an array of heating filaments. Preferably, the force regulator is adjustable and is adjusted prior to reactor operation and/or periodically or continuously as the filaments lengthen due to carburization in the carbon-vapor environment of the reactor. The adjustable force regulator attached to an array of filaments enables effective regulation of the force on a filament during reactor operation and provides an easily-maintained reactor with quick turn-around time between cycles of use.